Alternative 2 Option C

Bunker Hill

Acid Mine Drainage

Disposal of Raw Sludge in Smelter Closure Area Disposal Beds

DATE: 11/29/2000 PROJECT NO.: 152215.FS.02 ESTIMATE BY: D. Bunte

rder of Magnitude Cost Opinion		N. Gulensoy		
		Willers	TOTAL	1.25 - 1.074.79 - 1.
[2011년 1월 1일 <u> 12 12 1</u> 2 12 12 12 12 12			UNIT	TOTAL
DESCRIPTION	QTY	UNIT	COST	COST
CAPITAL COST FOR NEW CELLS IN FUTUI				
(DOES NOT INCLUDE PUMPING AND PIPIN	NG COST)			
dge Disposal Bed (per each)				
Excavation	25,000	C. Y.	3.30	\$82,5
Subgrade Preparation	5	Acres	3,300.00	\$16,5
Subgrade Stabilization	10,500	C. Y.	4.40	\$46,2
Liner Protection Sand	8250	C. Y.	19.80	\$163,3
Drain Rock	1,950	C. Y.	19.80	\$38,6
Ditch Lining Geotextile	21,200	S. Y.	1.82	\$38.4
GCL	18,100	S. Y.	4.46	\$80,6
H D P E Geomembrane	18,100	S. Y.	5.94	\$107,5
HDPEPipe, 10"	550	L. F.	25.30	\$13,9
Erosion Control Matting	11800	S.Y.	1.65	\$19,4
Perf Pipe, 4"	2000	L. F.	2.20	\$4,4
Perf Pipe, 6"	580	L. F.	3.30	\$1,9
HDPE Pipe, 6"	130	L. F.	2.75	\$3
Strip Drains	700	L. F.	1.93	\$1,3
Valves, 6" Knife Gate	2	Each	770.00	*.,-
Valves, 10" Knife Gate	6	Each	1,100.00	
Air/Vacuum Release Valve	1	Each	2,200.00	
Valve Vault	6	Each	2,145.00	
Water Tight Manhole	1	Each	3,850.00	
Vertical Filtrate Drains	6	Each	4,400.00	
Cleanouts	2	Each	825.00	
Perimeter Road Embankment (not reduced	28275	C. Y.	11.00	\$311,0
Chain Link Fence and Gates (not reduced)	1000	L.F.	13.20	\$13,2
Groundwater Monitoring Wells	2	Each	6,600.00	, ,
Crushed Rock Surfacing (not reduced)	1500	C. Y.	16.50	\$24,7
SUBTOTAL				\$1,213,15
MISC ALLOWANCE	10%			\$121,3 °
SUBTOTAL				\$1,334,40
CONTINGENCY	30%			\$400,34
SUBTOTAL				\$1,734,86
MOBILIZATION	15%			\$260,2
CONSTRUCTION TOTAL				\$1,995,0
SALES TAX ON MATERIALS	5.0%			\$27,5
	20%			\$399,00
ENGINEERING AND SUPPORT	2070			

ANNUAL O&M COST FOR OPERATING BED

\$889,000

\$72,000

NPV OF ANNUAL O&M COSTS (30 YEARS @ 7% INTEREST)

\$11,376,000

TOTAL 30-YEAR PRESENT WORTH COST @ 7% INTEREST

\$12,265,000

NOTES:

Misc Allowance markup is to include items known to exist but cannot be quantified at this time. Contingency is for scope changes that are presently unforeseen.

Mobilization includes bonds, insurance, temporary facilities, health & safety, demobilization, etc.

NPV OF INITIAL AND SUBSEQUENT BEDS & CLOSURES CAPITAL COSTS @ 7% INTERE

NOTE: The above cost opinion is in November 2000 dollars and does not include escalation. The order of magnitude cost opinion shown has been prepared for guidance in project evaluation at the time of preparation. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope, final schedule and other variable factors. As a result, the final project costs will vary from those presented above. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.